TABLE OF CONTENTS

[1]**HITACHI**

Video Deck

VT-M273A

Owner's Manual
Your Complete Guide
to Videocassette Viewing
and Recording

Using these quality features:

Up to 8 delayed recording programs
Auto tracking for improved picture in playback
Cable-compatible frequency synthesizer quartz tuner
Remote control for use with your VCR, TV, and cable converter
All basic playback functions on the VCR
On-screen graphic programming guide
VCR Plus+* for easy timed recording

* VCR Plus+ and Plus Code are trademarks of Gemstar Development Corp.
VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

HITACHI HOME ELECTRONICS (AMERICA), INC.
3890 Steve Reynolds Blvd., Norcross, GA 30093
Tel. 404-279-5600

HITACHI SALES CORPORATION OF HAWAII, INC.
3219 Koapaka Street
Honolulu, HI 96819
Tel. 808-836-3621

HITACHI (HSC) CANADA, INC.
3300 Trans Canada Hwy. Pointe Claire, Quebec
H9R 1B1, CANADA
Tel. 514-697-9150

P4708821 © Hitachi, Ltd. 1993
Printed in Malaysia KM-F(N)

TABLE OF CONTENTS

TABLE OF CONTENTS 2
FOR YOUR SAFETY 4
READ THIS FIRST 6
IMPORTANT SAFEGUARDS 7
Getting Started 11
Simple Hookups 11
1 Decide Where to Put Your VCR 11
2 Decide Which Hookup Method to Use 11
3 Hook Up the Audio/Video Signal 12
4 Hook Up the RF Signal 12
5 Attach the TV and VCR to the Power Supply 15
6 Install Batteries in the Remote Control 15
7 Set the RF or Video Channel Switch 16
Getting Started (Controls) 17
Quick Tour of the Controls 17
Remote Control Buttons 18
When the Remote Doesn't Work Right 19
VCR Controls 20
Display Indicators 21
Meet Your On-Screen Guide 21
Getting Started (Initial Setup) 22
Setup for First-Time Operation 22
Initial Setup Options 22
Setting the Clock 23
More About Channel Selections 24
Getting Started (Videotapes) 26
About Videocassette Tapes 26
Types 26
Safety Tabs Prevent Erasure 26
Loading and Ejecting 27
Tape Storage 27
Basic Operations 28
Viewing a Videocassette 28
To Play Back a Recorded Tape 28
To Fine Tune the Picture 28
Rewinding the Tape 29
Special Playback Effects 29
To Find Specific Sections on a Tape 31
Basic Operations (Recording) 33
Recording a Program 33

TABLE OF CONTENTS

Before you Record 33
Basic Recording Steps 33
Recording Tips 34
Using the Instant Recording Timer (IRT) 34
Setting the VCR to Record Later 35
Reviewing What You Have Programmed 37
Programming Priorities 37
Basic Operations (VCR Plus + Recording) 39
Easy Delayed Recording with VCR Plus + ... 39
About VCR Plus+ 39
Channel Setup 39
Using VCR Plus+ to Record a Program 43
Advanced Operations (Remote Control of TV) 46
Controlling Your TV with the VCR's Remote 46
Programming the Remote Control 46
Controlling the TV 47
Advanced Operations (Cable Box Hookups) 48
Hooking Up to a Cable Box 48
A Step-by-Step Approach 48
Remote Control of the Cable Converter 50
Advanced Operations (Second VCR) 52
Integrating a Second VCR 52
Hookup 52
To Control Both VCRs with the Remote Control 52
Copying from One VCR to Another (Dubbing) 52
Copying Tapes From A Camcorder 53
VCR Care and Servicing 54
Routine Cleaning 54
Head Cleaning 54
Periodic Maintenance 54
If the VCR Doesn't Work Right 54
Don't Attempt Repairs Yourself 54
Care and Servicing (Problems) 56
Hitachi Service Hotline 57
Specifications 58
Technical Specifications 58

FOR YOUR SAFETY

POWER SUPPLY: AC 120V, 60 Hz ONLY.
The POWER switch turns the VCR on and off, leaving the clock/timer unaffected. If the unit is to be
left unattended for a long period, it is recommended that the unit be completely switched off and
unplugged.
Illustrated below is the label on the back your unit.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: Many television programs and films are copyrighted. In certain circumstances, copyright law may apply to private in-home videotaping of copyrighted materials.

WARNING:
TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, AND FULLY INSERT PLUG.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference regulations of the Canadian Department of Communications.

"Note to CATV system installer: This reminder is provided to call the CATV system installer's
attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building,
as close to the point of cable entry as practical."

READ THIS FIRST

Thank you for buying a Hitachi product. You've chosen the best VCR for you, and we want to help you make the most of your purchase. Please take time to become familiar with this manual and how it is set up. Keep it handy for future reference, too.

To guide you, we've concluded:

"Must read" sections containing important cautions for your family's safety, as well as the basic facts you need to use the VCR. These sections are highlighted like this in the table of contents:

Information on the advanced features of your Hitachi VCR. We hope you'll take time to learn about these functions since we've designed them for you. But you can use the VCR without reading these sections.

We want this manual to be a tool for you, so we provide two ways to find the information you need:

A quick index to the basic functions of the VCR which you will use often (this page).

A detailed table of contents directing you to specific information quickly (page 4).

Get to know your VCR by using this manual, and get to know Hitachi. We appreciate your business.

IMPORTANT SAFEGUARDS

In addition to the careful attention devoted to quality standards in the manufacture of your video product, safety is a major factor in the design of every instrument. But, safety is your responsibility too.
This page lists important information that will help to assure your enjoyment and proper use of a Video Cassette Recorder and accessory equipment. Please read it carefully before operating your video product and keep it in a handy place for future reference.

INSTALLATION

1 Read and Follow Instructions - All the safety and operating instructions should be read before the video product is operated. Follow all operating and use instructions.

2 Retain Instructions - The safety and operating instructions should be retained for future reference.
3 Heed Warnings - Comply with all warnings on the video product and in the operating instructions.
4 Polarized Plug - This video product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. To prevent electric shock do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted without blade exposure. If you need an extension, use a polarized cord.

5 Power Sources - This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your video dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.
6 Overloading - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock. Overloaded AC outlets and extension cords are dangerous, and so are frayed power cords, damaged or cracked wire insulation and broken plugs. They may result in a shock or fire hazard. Periodically examine the cord and have it replaced by your service technician if appearance indicates damage or deteriorated insulation.

7 Power-Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
8 Ventilation - Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the video product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the video product manufacturer's instructions have been followed.

9 Attachments - Do not use attachments unless recommended by the video product manufacturer as they may cause hazards.

Caution: Maintain electrical safety. Powerline operated equipment or accessories connected to this unit should bear the UL listing mark or CSA certification mark on the accessory itself and should not have been modified so as to defeat the safety features. This will help avoid any potential hazard from electric shock or fire. If in doubt, contact qualified service personnel.

10 Water and Moisture - Do not use this video product near water - for example, near a bath, tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
11 Accessories - Do not place this video product on an unstable card, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
11A An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

12 Outdoor Antenna Grounding - If an outside antenna or cable system is connected to the video product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See example below:

EXAMPLE OF ANTENNA GROUNDING

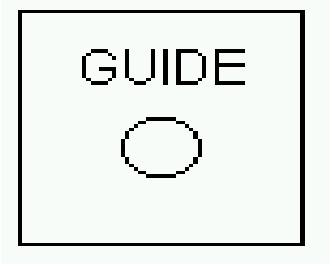
13 Power Lines - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching or approaching such power lines or circuits as contact with them might be fatal. Installing an outdoor antenna can be hazardous and should be left to a professional antenna installer.

USE

14 Cleaning - Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

15 Object and Liquid Entry - Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

16 Lightning - For added protection for this video product during a lightning storm, or when it its left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable-system. This will prevent damage to the video product due to lightning and power-line surges.



SERVICE

17 Servicing - Do not attempt to service this video product yourself as opening or

removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

18 Conditions Requiring service - Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

a. When the power-supply cord or plug is damaged.

b. If liquid has been spilled, or objects have fallen into the video product.

c. If the video product has been exposed to rain or water.

d. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.

e. If the video product has been dropped or the cabinet has been damaged.

f. When the video product exhibits a distinct change in performance - this indicates a need for service.

19 Replacement Parts - When replacement parts are required, have the service technician verify that the replacements he uses have the same safety characteristics as the original parts. Use of replacements specified by the video product manufacturer can prevent fire, electric shock or other hazards

20 Safety Check - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the video product is in safe operating condition.

Getting Started

Simple Hookups

1 Decide Where to Put Your VCR

Be sure your chosen location allows for proper ventilation, stability, and protection from heat and moisture (see Important Safeguards).

Place the VCR near your TV but not on top of it. For convenience in using the remote control, locate them no more then three feet apart.

If you have an external cable or antenna, place the TV and VCR where you have ample cable to hook them up. If necessary, you can purchase a cable extension and connector.

If you plan to route your VCR audio through your stereo speakers for better sound, place the VCR near the stereo receiver, or have enough long audio cables to make the connections. (But keep in mind that the electronic signal weakens the further it has to travel.)

2 Decide Which Hookup Method to Use

To make your VCR function, you'll deal with two basic hookups:
1. The *audio and video signal*: If all you want to do is view a prerecorded videotape on the VCR, this two-line hookup is the only one you need.
2. The *radio frequency (RF) signal* from a cable or antenna: Make this hookup if you also want to record programs, or if you have no audio/video connectors on your TV.

We will show you the simplest hookups first and then present several variations to suit specific needs. Be aware that you may need to purchase additional connectors to make the desired hookup. These are available at video stores and electronic hardware stores. Choose which hookup method to use based on:

Your TV's capabilities

The type of antenna or cable system you have (for cable box hookup, see Advanced Operations)

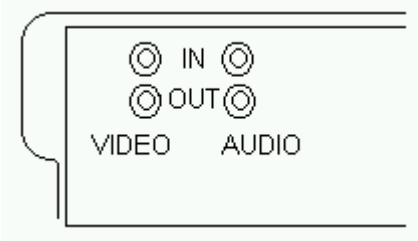
Any other devices you want to include in the system (second VCR, etc.)

We will guide you through this process. But first, turn the TV and the VCR around so you are looking at their backs. Note the various input and output receptacles, their shapes, and how they are labeled. Then read through the rest of this hookup section before proceeding to an actual hookup.

DO NOT TURN ON THE POWER YET. FOR YOUR SAFETY, LEAVE YOUR TV AND VCR UNPLUGGED WHILE HOOKING THEM UP.

3 Hook Up the Audio/Video Signal

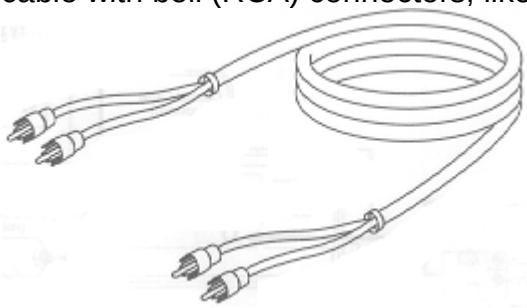
If your TV is a fairly recent model, you probably have both audio and video jacks. Look at the back of your TV for two jacks - possibly color-coded yellow and white. They will be labeled AUDIO IN, or Video IN. (If you are not sure, look at the back of your VCR - you will see two sets of these jacks.



If you have no jacks like these on your TV, skip this step and proceed to Step 4.

TV with Audio and Video Jacks

If you do find all two jacks on your TV, you need to purchase a two-line audio/video cable with bell (RCA) connectors, like this:



Connect the yellow VIDEO OUT jack on the VCR (bottom row of jacks) to the VIDEO IN jack on TV.

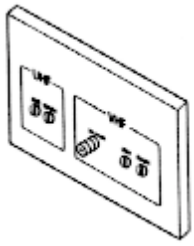
This direct video input will give you the best picture. It will also let you play videos in a "picture in picture" feature, if your TV has it.

Then connect the white AUDIO OUT jack on the VCR to the AUDIO IN jack on the TV. This audio hookup will give you better sound than the RF signal hookup, because the electronic signal won't have to go through a conversion process.

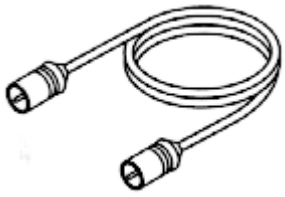
Capabilities: The audio and video signal connections are all you need to paly back a prerecorded tape. If you do not intend to record on your VCR from your antenna/cable, then you're all hooked up now. Otherwise, continue with step 4 which will let you record off TV channels.

4 Hook Up the RF Signal

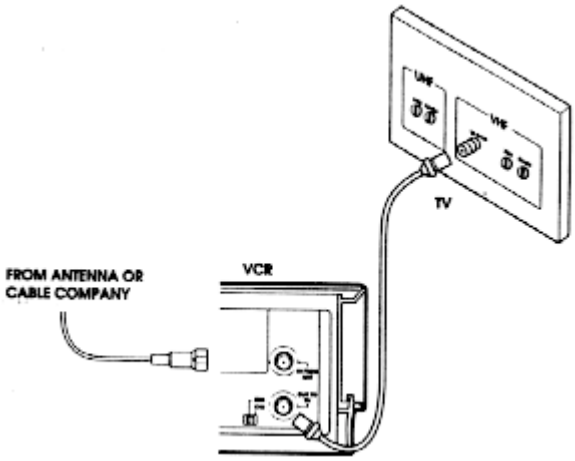
Look at the back of your TV for a connector that looks like one of these, and follow the corresponding hookup option. If you have any sort of cable box, see the hookup options in Advanced Operations (page 50).



Simple Antenna/Cable 75 Ohm Hookup
This is an easy hookup that you can use if your cable or antenna has a 75 ohm round wire connector. You will need the 75 ohm cable supplied with your VCR. It looks like this:



If you have been watching the TV in your home before getting the VCR, you will already have a round wire attached to your TV, Otherwise, look for a cable connection coming in through the wall from outside. (if you find this connection, remember to call your local cable company to start the service.)
1. If you still hooked up to your TV, unscrew the round wire from the 75 ohm connector on your television. Otherwise, take the wire that comes in from the wall.
2. Screw this round wire into the IN FROM ANT. lower jack on the back of your VCR.
3. Using the 75 ohm cable supplied with your VCR, slide on either end to the OUT TO TV upper jack on the back of the VCR.
4. Connect the other end of the same cable onto the 75 ohm antenna input on your TV (where you first disconnected the TV in step 1).



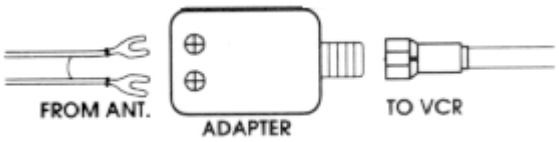
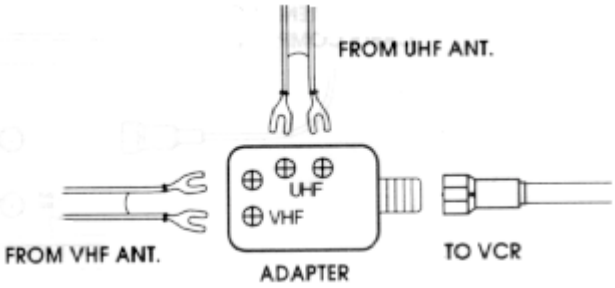
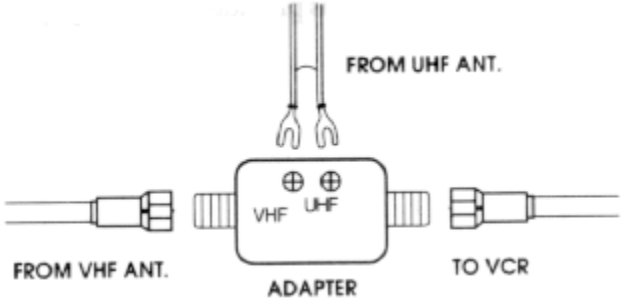
Capabilities: With this hookup, you should now be able to perform all the basic functions provided by this equipment.

External or Internal 300 Ohm Antenna

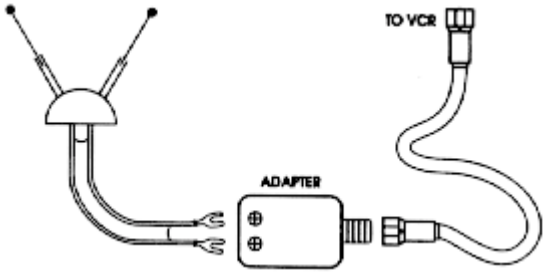
If you have either an external or internal (rabbit ears) antenna rather than cable, you may have 300 ohm connectors like these:

In this case, you will need special adapters (not provided with VCR) to make the 75 ohm round wire connections shown below. (You may already have one on your TV.)

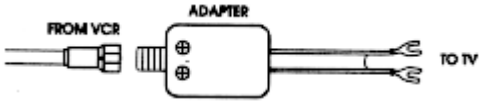
1. Remove the antenna line from the back of your TV if it is already connected there, or take it from where it comes in on the wall.
2. Considering the three pictures below, determine which adapter you will need to hook into your VCR.

If you have	**Use this adapter**
Single 300 ohm flat wire	
Separate UHF and VHF antenna antenna wires, both 300 ohm flat wire	
300 ohm flat UHF and 75 ohm round VHF	

If you have "rabbit ears" (an antenna on top of your TV), you will need an additional adapter and 75 ohm extension to make your leads reach from the antenna to the VCR. This connection will work only if you have a strong, clear picture on the TV, indicating a strong signal. Connect the antenna to the adapter, and use the cable extension to go from the adapter to the VCR. Use the supplied 75 ohm cable to connect the VCR to the TV.



Now continue wit the hookup:
1. Using whichever adapter you have fit your antenna with, attach that connector to the IN FROM ANT. lower jack on the back of the VCR.
2. Using the 75 ohm cable supplied with your VCR, connect either end to the OUT TO TV upper jack on the back of the VCR.
3. Use a second adapter to attach the other end of the 75 ohm connector back into the TV (where you first disconnected the antenna).



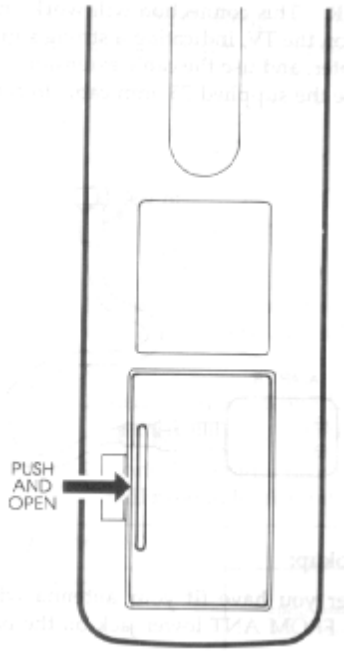
Capabilities: With this hookup, you should now be able to perform all basic functions provided by this equipment.

5 Attach the TV and VCR to the Power Supply

Plug in the TV and VCR power cords to the wall outlet or an appropriate extension cord or surge protector. See Important Safeguards for further precautions (page 6).

6 Install Batteries in the Remote Control

The remote control requires two fresh "AA" batteries. On the back of the remote, a plastic cover pushes off in the direction shown by the arrow. Remove this cover and install the batteries, matching the plus end of each battery with the plus mark on the remote.

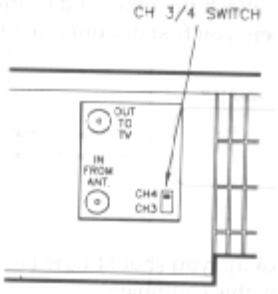


7 Set the RF or Video Channel Switch

When the VCR is on, its video signal can come into your TV an either channel 3 or channel 4. You need to select the appropriate channel.

Turn the power on to both the TV and the VCR, and look for a switch on the back of the VCR. Set the switch to 3 or 4, whichever is not a commercial channel in your area. Your basic hookup is now complete. When you're ready to try hooking up a second VCR or a video camera, see Advanced Operations.

Now turn the TV and VCR back around facing you and begin your quick tour of the controls (page 15).



Getting Started (Controls)

Quick Tour of the Controls

Study these pictures carefully to learn about the buttons and controls that you'll need for daily operation. Various controls are explained throughout this manual as they are needed, but now is a good time to get familiar with their locations.

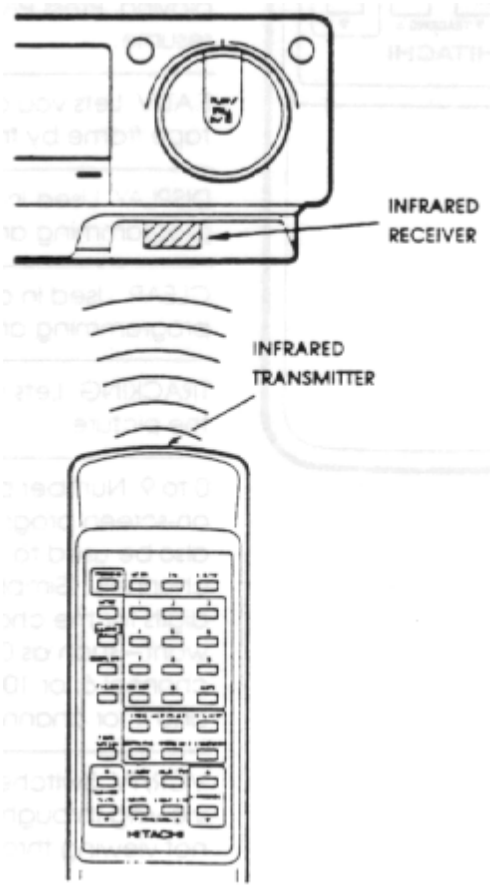
Most of the time, you'll be directing the VCR from the remote control, but there are some controls on the VCR that will come in handy, too.

When you're familiar with these basic controls, proceed to Initial Setup (page 20). We'll show you how to program your local channels and set the clock to make your VCR fully functional.

How the Remote Control Works

Pressing a button the remote control transmits an invisible beam of light (Infrared) to a receiver at the right front of the VCR.

When using the remote, aim the front end towards the VCR and make sure nothing - such as a coffee table or your dog - is blocking the path of the infrared beam.



Remote Control Buttons

Illustration of remote

POWER
Turns the VCR on and off.

VCR1, TV, CATV, VCR2
Device buttons let you set the remote to control one of four devices.

MUTE
Turns off the audio until you press Mute again.

VOLUME/SLOW
Increase or decrease the audio volume and plays back in adjustable slow motion.

REW
Rewinds the videotape.

PLAY
Starts playing a loaded videocassette.

STOP
Stops a videocassette from playing, recording, pausing, rewinding - or anything it is doing.

GUIDE
Brings up an on-screen setup and programming guide, the Easy Guide System.

TAPE SPEED
Switches between standard play (SP) and extended play (EP).

AVX
Used for recording from an auxiliary input such as a stereo system.

LAST CHANNEL
Switches to the TV channel you watched previously during the current viewing session.

CHANNEL
Top button switches to the next higher channel, bottom button switches to the next lower channel. For these to operate, you must have preset your channels.

REC
Starts recording on the station the VCR is set to. (Press REC and PLAY at the same time.)

F.FWD
Fast forwards the videotape.

PAUSE
Temporarily stops the cassette from recording or playing. Press PAUSE again (or PLAY) to resume.

F.ADV
Lets you advance the tape frame by frame.

DISPLAY
Used in on-screen programming and indexing.

CLEAR
Used in on-screen programming and indexing.

TRACKING
Lets you fine tune the picture.

0 to 9
Number buttons used in on-screen programming. Can also be used to change channels. (Simply press 2 or 3 digits for the channel you want - such as 0 and 6 for channel 6, or 100/ENT and 2 and 4 for channel 124.)

VCR/TV
Switches between viewing through the VCR and not viewing through the VCR.

When the Remote Doesn't Work Right

Check out these possibilities:

Low Battery

If the remote is not working even at close range, try putting in two fresh AA batteries.

Objects in the Way
There may be objects between the remote and the VCR - for instance, a stack of books on the coffee table, your 2-year-old child or the dog. Hold the remote so that it points at the VCR with nothing in the way.

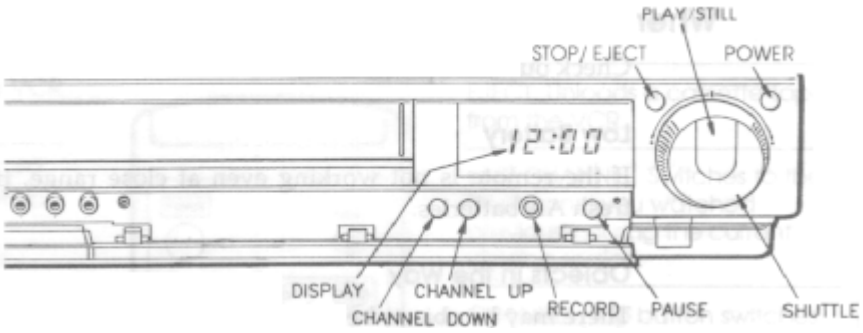
Set to Wrong Device
It may be set to VCR2 when you're trying to control VCR1. To confirm that this is the case, try pressing VCR2 and a function button (like channel up or down). If the remote works now, you know that it's set to VCR2. To reset it to VCR1, refer to the on-screen Initial Setup options.

If You Just Want to Watch TV

For normal TV viewing, you do not need to disconnect the VCR. When the TV and VCR are already on, press POWER on the remote control. The VCR will shut off, but the TV will stay on.

If you are recording on the VCR but want to watch a different channel on the TV, press the VCR/TV button to switch back and forth between the TV channel and the recording channel.

VCR Controls



POWER Turns VCR power on and off.

STOP/EJECT Cancels any videotape action, and when pressed a second time, ejects tape.

PLAY/STILL Plays the loaded videotape.

SHUTTLE Controls the videocassette's forward and reverse motion with one convenient dial.

DISPLAY Shows time, channel, and status indicators.

CHANNEL Up and down arrows for selecting channels.

REC/IRT To begin recording.

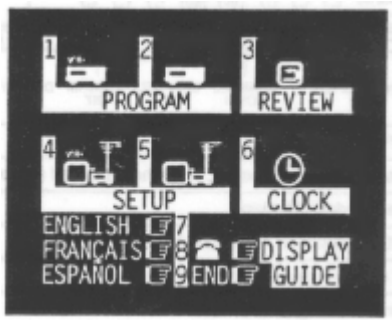
PAUSE To interrupt play or recording. Press again to resume.

Display Indicators

⊡	Cassette Loaded	EP	Extended Play
REC	Recording	SP	Standard Play
◄◄	Rewind	◴	Programmed to Record Later
►►	Fast-Forward		
►	Playback	L1 or L2	Signal Being Received Through Audio/Video Input Jacks on Front or Back of Unit
II	Pause		
II►	Slow-Motion Play		
VCR	VCR Mode		

Meet Your On-Screen Guide

Your Hitachi VCR has a special feature called the Easy Guide System. This feature guides you through simple setup and programming tasks right on the TV screen. With the TV and VCR turned on, press GUIDE on the remote control. You will see this screen:



You may view all the on-screen instructions in English, French, or Spanish. When you first set up your VCR, it will be set to English. Press numbers 8 or 9 for the other language options.

Now, you will do most of your programming and setup by pressing numbers on the remote control which correspond to options presented in this and other on-screen menus. Instructions are easy to follow, and blinking spaces on the screen will show you where your input is needed.

When you want to leave the Easy Guide System, simply press GUIDE several times. This will back you out to the normal TV viewing screen.

If you don't press any button for a while, the VCR will switch you back to an earlier screen or to regular TV viewing.

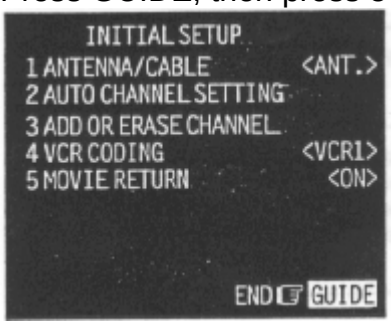
Getting Started (Initial Setup)

Setup for First-Time Operation

Before you use your VCR to watch or record from your TV, you need to "tell" the VCR whether your TV uses cable or antenna input and let it program itself to receive your TV's channels. It's also a good idea to set the clock so you can do timed recordings later. With your TV and VCR hooked up, turn them both on and follow these steps using the remote control.

Initial Setup Options

Press GUIDE, then press 5 to bring up the Initial Setup screen.



At the right of the screen are the default settings on your VCR. The default settings are the ones that are preset at the factory. They come up on the VCR every time the power goes out for more than 5 seconds - for example, during a storm or when you unplug the VCR.

Look at each item to see if it matches your own setup:

To change a setting, press the button that has the same number as that item. This will cycle you through several options.

When everything is set up as you want, press GUIDE again to back out of the Easy Guide System.

You need to set items 1 and 2 the first time you set up your VCR and any time you have a lengthy power interruption. The rest of the items can be set later as needed.

Here are what the options mean:

1 ANTENNA/CABLE
Press 1 to select the type of receiving setup you have:
<ANT.> Internal or external antenna
<CATV1> Ordinary cable
<CATV2> Alternate cable (if CATV1 doesn't give you the channels you expect)

2 AUTO CHANNEL SETTING
Press 2 to automatically program the VCR to receive all the channels that come in on your antenna or cable.

3 ADD OR ERASE CHANNEL
Press 3 to bring up a screen that lets you add new channels or limit the channels to the ones you most often watch.

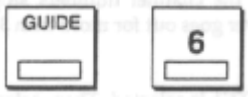
4 VCR CODING
Press 4 to enable the remote control to control a second VCR. Options are <VCR1> and <VCR2>.

5 MOVIE RETURN
Press 5 to select whether you want prerecorded movies (safety tab removed) to automatically rewind, eject, and turn off the power when the movie is over and no prerecorded signals exist. Options are <ON> and <OFF>.

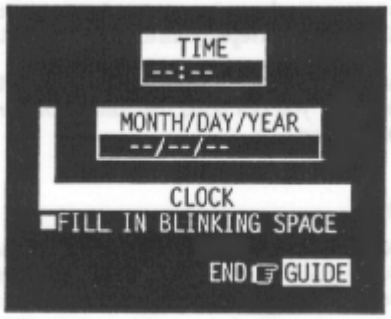
Setting the Clock

This is easy to do and important for your later timed recordings. You'll need to set the clock when first hooking up your VCR, and any time the power goes out more than 5 seconds.

When you first plug in the VCR or after a power interruption, the clock display will read "--:--".



To set the clock, press GUIDE, then press 6 to bring up the Clock Set screen:



Press the number buttons on the remote control to set the current time - two digits for the hour and two for the minutes. Then press 1 or 2 for AM or PM, respectively.
For example, if it is now 2:15 PM, press 0, 2, 1, and 5 for hours and minutes, and press

2 for PM.
Continue pressing buttons to set the date. For example, if today is July 8, 1994, press 0, 7, 0, 8, 9, and 4 to get 07/08/94.
When you're done, press GUIDE twice to return to regular viewing.

Tips:

The item to be changed will blink on the screen as you go.

The clock uses the 12-hour system. You set it for AM or PM.

An illogical time (like 13 for the hour or 20 for the month) will not be accepted. A question mark displays instead of the illogical number.

If you press the wrong digit, exit the screen by pressing GUIDE and recall the screen to enter the correct setup.

The day of the week is set automatically.

More About Channel Selections

Your VCR is capable of receiving 68 broadcast TV channels (VHF 2-13, UHF 14-69) and 125 cable channels (CATV 1-125).

When you press 2 on the Initial Setup screen, the tuner automatically cycles through all available channels in your area and places them in memory. This takes 2-3 minutes. You can watch the progress on the VCR's display - when the channel numbers stop changing, programming is complete. Only when the power goes out for more than 5 seconds do you need to preset the channels again.

In some areas channels cannot be switched when CATV1 is selected. Then, select CATV2 in your Initial Setup screen.

For convenience, the TV channel numbers should match those programmed into the VCR. If your TV has automatic channel programming, set it on the same mode - ANT, CATV1, or CATV2 - and let it reprogram to match the VCR.

Once channels are preset, you can use the up and down CHANNEL buttons to move through the active channels or you can press the number buttons to move quickly between channels that are far apart.

Removing Channels

You may not want to keep all the stations the auto-programmer selects, since you may prefer to have only a few favorite channels in the tuner's memory or you may want to delete from memory a weak or unused channel that the tuner picked up.

Erased channels cannot be selected by the up and down CHANNEL SELECT buttons but can still be selected by using the numbered buttons 0 to 9 and 100/ENT.

Adding Channels

Occasionally the auto-programming may skip an active channel because the antenna was pointed in the wrong direction or the channel had a weak signal or was "off the air" at the time of programming or you may change your mind about a channel you removed

from memory.

To Add or Erase Channels

Press GUIDE, then press 5 to bring up the Initial Setup screen. Item 3 lets you add or delete channels. Use the number buttons to enter the channel you want to change, then press STOP to delete it or press PLAY to add it.

Caution After a Power Failure

If a power failure lasting for more than 5 seconds occurs, reset the clock and perform the "AUTO CHANNEL SETTING" found in the "INITIAL SET-UP" menu.

Getting Started (Videotapes)

About Videocassette Tapes

Types

The best thing you can do for your VCR is use the best quality tapes available. This VCR uses VHS tapes only, which are the most common type. Look for the VHS mark on new or prerecorded tapes you buy.

Tapes are marked either T-120 or T-160, which signifies how many minutes of programming they can hold at standard recording speed (SP). To get the best quality picture, record at standard speed. But if you want to get more on a tape and are less concerned about the quality, set the VCR for extended play (EP).

Tape Capacities at Different Speeds

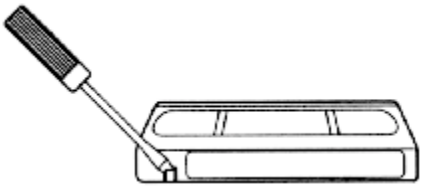
TYPES	RECORDING TIME	
	SP	EP
T-120	120 min.	360 min.
T-160	160 min.	480 min.

You may have noticed that there is also an LP speed. Your Hitachi VCR does not record at this speed, but it can play cassettes that were recorded in LP mode. No special setting is required for playback.

Safety Tabs Prevent Erasure

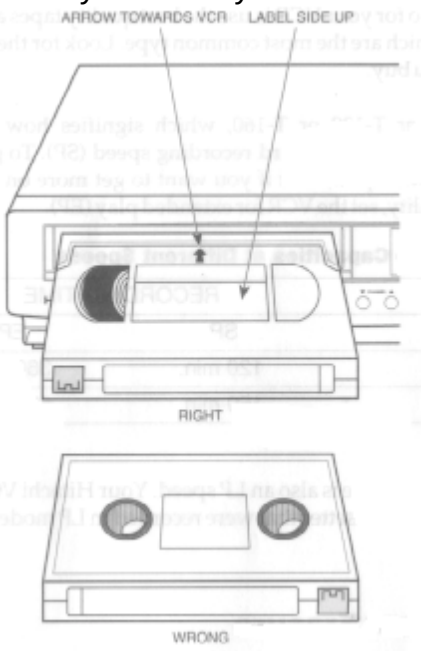
A safety tab is located on the front left edge of every videotape next to the label. Break this tab off if you want to keep a special tape from being erased accidentally. (Notice this tab is already removed on prerecorded tapes you buy or rent.) Insert the tip of a screwdriver or similar kind into the space behind the tab to break it off.

Don't worry, you can change your mind and record on this tape even after the tab is broken off - simply cover the hole with cellophane tape.



Loading and Ejecting

When you load a videocassette into the VCR, there is only one right way! Most tapes show you the way with a little arrow on the top side which should go in first.



Push the videocassette gently into the slot on the front of the VCR. You will feel the VCR take it in.
When the cassette is all the way in, the VCR powers up automatically and a TAPE-IN indicator shows on the LCD display. It may also start playing immediately if the safety tab has been removed.
To remove the cassette, simply press the STOP/EJECT button on the VCR. (If the tape is playing, press STOP/EJECT on the VCR once to stop the tape and a second time to eject it.
Now you can take the cassette out and put it away.

Tape Storage

Store your videocassettes in their jackets and in an upright position (like books in a bookshelf) away from any magnetic sources. Resist the temptation to leave them lying flat on top of the VCR. Tapes will last longer - and so will your VCR - if you store them properly. Remember, dust, dirt, and liquids are enemies of your tapes and VCR.

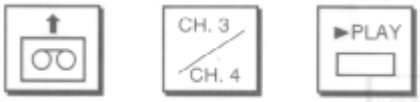
To avoid aggravation later, apply the labels that come with new tape. On them, write notes to yourself about what you recorded.

Basic Operations

Practice starting and stopping a video you've rented - play it through, see how it automatically rewinds.
Get a blank tape and try recording a TV show. Then you'll know how to use the VCR when you need to - or where in the manual to find the instructions you forgot. Let's go!

Viewing a Videocassette

To Play Back a Recorded Tape



1. Insert the cassette, arrow-side forward, into the slot at the front of the VCR. The power comes on automatically and the tape indicator lights on the display.
2. Turn on the TV and select the video channel (3 or 4) using the number buttons on the TV's remote control.
3. Press PLAY to start the tape.
4. Press STOP to end play.

If the safety tab has been removed and if you have set the MOVIE RETURN function to ON, the tape automatically begins to play when you insert it.

Direct Video Input to the TV

Normally you would select channel 3 or 4 on the TV to receive a signal from the VCR. You can get an even better picture if your TV has an auxiliary video input feature and if the TV and VCR have a direct video-to-video hookup. If this is the case, do not select channel 3 or 4. Instead:

Press the AUX or VIDEO button on the TV's remote control to select the proper input channel for playback.

To Fine Tune the Picture

Auto Tracking

Pressing PLAY starts the auto tracking feature, which adjusts the tuning to eliminate static lines that may appear on the screen.

Manual Tracking
Scratched tapes or poorly recorded tapes may require additional picture adjustment. You can do this with the remote control. Press VCR1 or VCR2 on respective mode, then press either of the TRACKING buttons (down or up arrows) until picture clears up. After operating the tracking manually, eject the tape and re-insert it to reactivate auto tracking.

Rewinding the Tape

When you are done watching a video, you can rewind the tape automatically or manually. If you press POWER while the tape is rewinding, the power will shut off automatically after the tape has completely rewound.

Manual Rewind

Press STOP and then REW. The VCR rewinds the tape all the way to the beginning, then stops.
Press STOP/EJECT on the VCR to release the tape.

Movie Return
If your videocassette has the safety tab removed and you set the MOVIE RETURN function to ON during initial setup, the VCR will stop and automatically rewind the videocassette, eject it, and turn off the power when it reaches the end of the tape or a blank section of tape which lasts for more than 30 seconds.
This function works only in PLAYBACK mode, not in RECORDING mode.

Special Playback Effects

Part of the fun of video watching is being able to stop the action and take a closer look or repeat a favorite scene. You can view the tape in variety of modes selected from the remote control or from the SHUTTLE dial on the VCR.

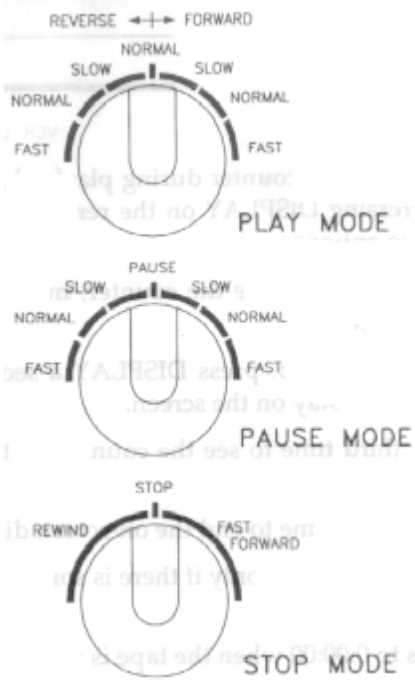
Still Playback (Pause)
Press PAUSE to still the tape during play. The picture will "freeze".
After 5 minutes in PAUSE mode, the VCR automatically switches to STOP mode to protect the tape.
If the screen jitters during PAUSE, use the remote's TRACKING buttons to minimize it. (See manual Tracking)
To resume play, press PLAY or PAUSE again.

Frame Advance
While in PAUSE mode during playback, press F.ADV to view the video one frame at a time. Press PAUSE to resume play.

Skip Playback
While playing back your tape you can skip forward by pressing the F.ADV button. The tape will search ahead for about a minute of recording time and then resume playing.

Slow Motion
To slow the playback speed to exactly the pace you want, press PLAY, VCR1 or VCR2 on respective mode, then press one of the VOLUME/SLOW buttons. Press VOLUME/SLOW (▼) to slow down, press VOLUME/SLOW (▲) to speed up. The more times you press, the slower or faster the slow motion.
If you want to minimize noise in slow motion playback, first set the VCR in still playback and press VCR1 or VCR2, then press either of the tracking buttons (▼ or ▲) to minimize vertical shaking.
Then set the VCR in slow playback and press VCR1 or VCR2, then press TRACKING buttons to minimize visual noise bands on the screen.
After 5 minutes in slow motion playback, the VCR will stop the tape automatically to prevent damage to the tape and the VCR.
To return to playback at a normal speed, press PLAY. To stop the tape, press STOP.

Using the Shuttle Control on the VCR
The shuttle feature lets you control all the playback functions - play, pause, slow motion, rewind, fast forward, and search - using one convenient dial.



The button in the center lets you choose PLAY or PAUSE mode. The dial also works in the STOP mode. As you turn the dial you get different playback speeds and forward or

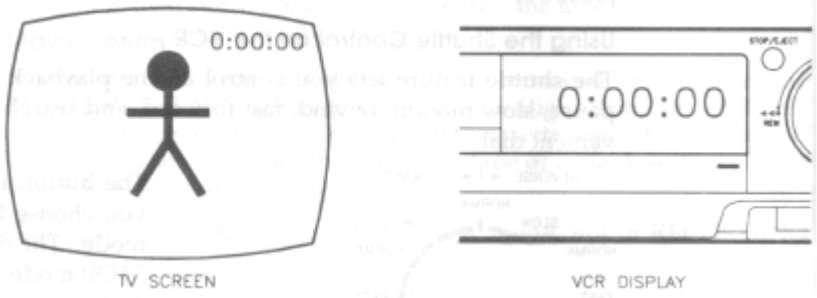
reverse motion. Try using the shuttle to explore backwards and forwards through your next video.

To Find Specific Sections on a Tape

Visual Search
This function lets you search backward and forward through the videotape while viewing it.
Using the remote control:
Press PLAY and REW to search in reverse.
Press PLAY and then F.FWD to search ahead.
Press PLAY again to return to to normal playback.

Using the SHUTTLE dial on the VCR:
Press PLAY and turn the dial to the far right or left to search forward and backward.

Searching with the Time Counter
During playback (and recording), a counter keeps track of how many hours, minutes, and seconds the tape has run. When you first start playback, the counter shows briefly in the TV screen's upper right corner.



When you want to check the counter during playback, there are several ways to do it. Pressing DISPLAY on the remote control will cycle you through the three options.
Press DISPLAY just once to see the counter, mode, time, and date on the screen for 5 seconds.
Before the 5 seconds are up, press DISPLAY a second time to see just the counter. It will stay on the screen.
Press DISPLAY a third time to see the counter on the VCR display as well. ("M" will display below the counter on the TV screen.)
Press DISPLAY a fourth time to end the on-screen display.

The linear time counter operates only if there is something recorded on the tape. The counter changes to 0:00:00 when the tape is ejected.

Marking with the Time Counter
If there is one part of the video that you want to return to, you can set the time counter to memorize that spot. Begin in either STOP or PLAY mode.
Press DISPLAY twice to show the counter on the TV screen.
Begin recording or playing back a tape. Notice the counter remains on the screen.

At the point that you want to go back to, press CLEAR on the remote control. This resets the counter to 0:00:00.

Press STOP when you are done recording or playing back the tape.

Press DISPLAY again and "M" will display below the counter on the TV screen. This indicates that the counter's memory function is engaged. The counter also appears on the VCR's display.

Now when you rewind the tape, it will automatically stop at the spot where you cleared the counter. (Notice it moves just past the marker and then back to it.) Press PLAY to watch the tape from that preselected spot.

Press DISPLAY to take the counter display off. The spot is still in memory until you set a new one or until the tape is ejected.

Basic Operations (Recording)

Recording a Program

Before you Record

The VCR must be hooked up properly for recording. See the Simple Hookups at the beginning of this manual.

Make sure you are familiar with the Easy Guide System for on-screen programming (page 19) and the basics about videocassettes and VCR safety.

Copyright Infringement Warning

Most television programs and films are copyrighted. This means that someone has legal rights governing the reproduction and distribution of this material. In certain circumstances, copyright law may apply to private in-home taping of copyrighted materials. In most cases, it is okay to record for personal use, as long as you do not sell the material. You must act responsibly in this are - check into the matter if you are unsure.

Basic Recording Steps

1. Load the videocassette into the VCR with the label side up and the arrow pointing toward the VCR. The power comes on automatically when the tape is fully inserted.
2. Turn the TV to channel 3 or 4 (the one you set the switch to on the back of your VCR). Or, if you are hooked up with a direct audio/video cable, set the TV to AUX or VIDEO.
3. Press TAPE SPEED on the remote control to select SP (standard play, for the best picture quality) or EP (extended play, for longest recording time on a single tape). An indicator on the VCR's display shows which speed is active.
4. Set the VCR to the channel you want to record from. Use the up and down CHANNEL buttons to flip through the channels, or use the number buttons to go directly to the channel you want.
5. To begin recording, press REC and PLAY on the remote control at the same time or REC/IRT on the VCR. Start recording at least 10 seconds before the program starts, to make sure you catch the beginning frames.

Recording will start unless the cassette is protected with the safety tab. If this tab has been removed, the VCR will eject the tape to prevent recording over what is there. (See About Videocassettes for more about preventing tape erasure.)

Recording Tips

To Watch the Same Program While Recording

To view what you are recording, press VCR/TV on the remote control so that the VCR is selected - the VCR indicator will light up on the VCR's display. You'll want to do this the first few times anyway to be sure you're recording what you want.

To Watch One Program While Recording Another

Once you have set the VCR for recording, press VCR/TV on the remote control. Now, you will be viewing through your TV only. Switch channels using your TV controls or the VCR remote, if it's programmed to control your television (see Advanced Operations). The recording will continue as set on the VCR. If a preset timed recording starts up while you are watching the TV, you'll hear the cassette as it clicks on and see the recording indicator light up on the VCR display.
You can check on the recording by pressing VCR/TV again. This will switch you back to viewing through the VCR, you'll see the program you are recording.

To Skip Commercials

When a commercial comes on that you don't want to record, simply press PAUSE on the remote control. The VCR will stop recording. Press PAUSE again to continue recording when you see the commercial is over. If you stay in PAUSE mode for more than 5 minutes, the VCR automatically switches to STOP mode to protect the tape.

To Change the Channel Being Recorded

Suppose you are recording one program, and you remember that something else is on that you would rather record. You can change the channel while in the recording mode.

Press PAUSE to stop the recording temporarily. This is necessary because the CHANNEL buttons won't work while you are in recording mode - to keep you from accidentally switching the station while recording.

Change the channel to the one you prefer.

Press PAUSE to continue recording.

If you want to leave an index mark where you began recording a diferent show, you need to press STOP instead of PAUSE. Then switch stations and press REC and PLAY on the remote control at the same time to resume recording.

Using the Instant Recording Timer (IRT)

The Instant Recording Timer (REC/IRT button onthe VCR) will let you make a simplified timer recording without having to use the programming timer. In order to set the IRT properly the clock must be set before starting.
Follow the steps 1 through 5 on "Basic Recording Steps" on page 33.
After the recording has started, press the REC/IRT button again to indicate the recording time on the display.
You can set the recording time length, which increases by intervals of 30 minutes, one hour, one and one half hours, two hours, three hours, and four hours, (i.e. 0:30, 1:00, 1:30, 2:00, 3:00, 4:00) by continually pressing the REC/IRT button. While you are

recording, the time remaining is shown in the display.
At the end of your recording the display will read "0:00"; recording will then automatically stop and the VCR will turn itself off.
To stop recording while in the IRT mode, press the POWER button and then press STOP (STOP/EJECT) button (this can be done either on the VCR or with the remote control) within 10 seconds.

Setting the VCR to Record Later

With the delayed recording feature, you can set this VCR so that it automatically comes on and records programs whenever you like - without your being around! You can record a program one time only, or you can automatically record a show every weekday or every week at the same time. You can preset as many as 8 timed recordings at once.

Recording is even easier when you have set up your channels for VCR Plus+. Learn the basics of delayed recording in this section. Then read about VCR Plus+ beginning on page 40.

We suggest you try all the different ways of programming the VCR when you have some leisure time, so you can learn how it works. That way, when an important show is going to be on that you really want to record, you'll be confident that your timed recording setup will work.

Types of Delayed Recordings

ONE TIME	Records one show at a particular date and time.
DAILY	Records a show at the same time every day of the week, Monday through Friday.
WEEKLY	Records a show at the same day and time every week.

Your VCR can record up to 8 programs at different days and times, or up to 8 programs on the same day.

Before You Begin
Assemble the information you need for timed recording:
- Be sure that the clock is set to the correct time
- Date and day of the program
- Starting time
- Ending time
- Channel to be recorded
- Blank or erasable videocassette (safety tab intact)

Delayed Recording Steps
You can set up the delayed recording using the on-screen Easy Guide System.
Press GUIDE, then press 2 for DELAYED RECORDING. Press number buttons 1, 2 or 3 for ONE TIME, DAILY, or WEEKLY RECORDING. Follow the flashing instructions

on screen to complete the programming. The programs are identified by numbers from 1 to 8.
Remember to press 0 before single-digit channel numbers, times, and dates - for example, 0 and 6 for channel 6.
After you enter the channel and time, the VCR automatically shows the current date or the next date, whichever is most logical. Leave the date as it comes up, or enter new digits for the month and day.

You can correct any item entered as you go by pressing the CLEAR button repeatedly until the digit to be corrected flashes on the screen. Illogical times and dates won't be accepted.

When everything is set as you want (even though some items may still be flashing), press GUIDE to program your settings into memory.

To preset additional recordings, repeat these steps. Otherwise, press GUIDE to return to the regular TV screen.

Don't forget to load a videocassette to record on.

Your delayed recording settings take effect when you turn off the power on the VCR.

When the power is off, the delayed recording indicator will display on the VCR. This tells you that the VCR will automatically record at the times and dates you have programmed.

To Stop a Delayed Recording in Progress

Press POWER and then immediately - within 10 seconds - press the STOP (STOP/EJECT) button (use the buttons on the remote or VCR as you wish).

An Example
Let's say you were interviewed today by a local TV reporter. You're eager to see yourself on the evening news tonight. The news comes on channel 8 at 6 o'clock - but you've got a meeting scheduledduring that time. Luckily you have just purchased this Hitachi VCR.

Press GUIDE, press 2 then press 1 to bring up the screen for One Time recording:

Now fill in the blanks:

Select channel 8 by pressing 0 and 8 on the remote control.

Enter the start time by pressing 0, 6, 0 and 0 for 6 o'clock. Then press 2 for PM.
Enter the end time, half past six, as 6:30. The VCR automatically selects PM for you.
The screen shows today's date, so no changes are needed on that line.
Press TAPE SPEED to switch to SP because you want the best quality picture for this recording.

Everything is as you want it, so press GUIDE to set the program in memory.

Insert a videocassette, and power off the VCR. Check for the delayed recording indicator on the VCR's display. Prepare to admire yourself on the evening news.

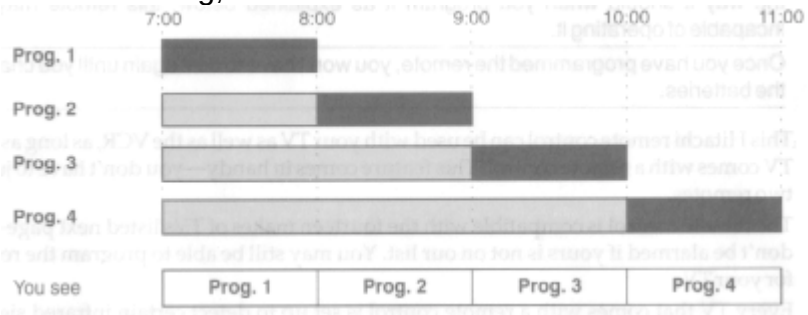
Reviewing What You Have Programmed

You can look back over any of the recordings you have preset, and if you need to, clear out any of the programs. Normal programs will clear automatically once recording is complete, but daily and weekly settings must be cleared out manually.
Press GUIDE, then press 3 for the PROGRAM REVIEW option. This brings up the screen settings for Program 1. Keep pressing 3 to cycle through all the programs you have preset.
To remove a program, press CLEAR. The screen will display the next program, if there are more, or it will switch back to the main menu.

Programming Priorities

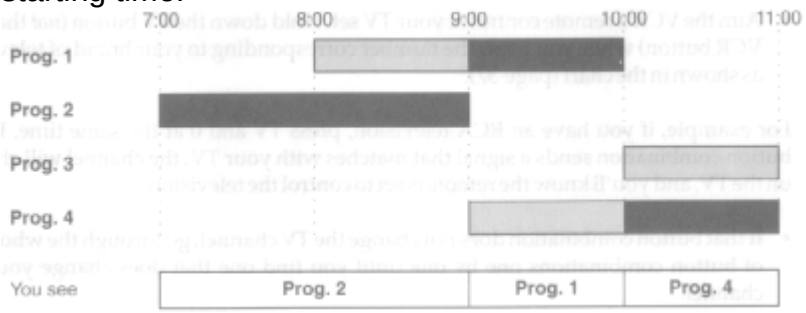
When you have set up several timed recordings, it may occur that some of their times overlap. For example, this can happen if your VCR are set up to record shows on a daily or weekly basis, and a special show comes on that you try to record during the same time slot.
The following charts will help you visualize how the VCR prioritizes the preset recordings. The darker portions are program segments that *would* be recorded.

Shows with Same Starting Time: By Program number
If the overlapping programs start at the same time, the VCR records in order by program number (1-8). If the shows are all scheduled to start at 7 AM, the VCR starts with program 1 at 7 AM, switches to what remains of program 2 when program 1 is done recording, and so on.



Shows with Different Starting Times: By Earliest Program

If the programs start at different times, the VCR records the show scheduled to start earliest, records the entire show, then moves on to the show with the next earliest starting time.



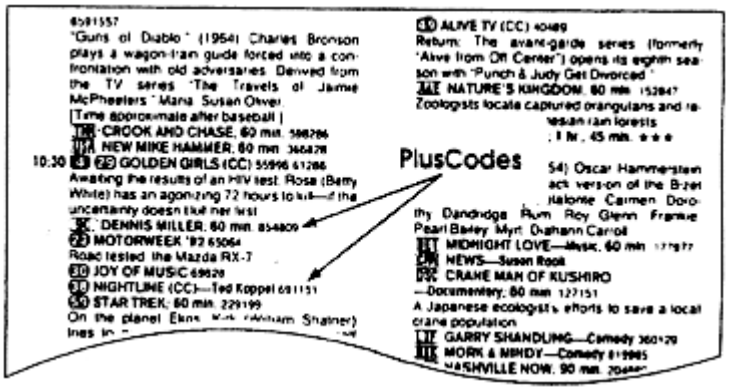
To avoid recording only bits and pieces of different overalpping shows, review your programming and delete those shows that are not essential.

Basic Operations (VCR Plus + Recording)

Easy Delayed Recording with VCR Plus +

About VCR Plus+

This handy feature makes timed recordings a snap. You don't need to enter the specific channel, date, time, or duration of a program. All you enter is its PlusCode--a number of up to eight digits. This special code is easy to find in your favorite TV program guide or a daily newspaper. Here's a sample page from *TV Guide* showing PlusCodes next to each program.



To get ready to record with VCR Plus+ you need to assign your local broadcast and cable channels to the VCR Plus+ channel codes already stored in your VCR's memory. This is called *channel setup*, and you do it using the on-screen Easy Guide System. The procedure depends on what kind of hookup you have. We'll give you step-by-step instructions. Then you will be ready to begin VCR Plus+ recording, also using the on-screen Easy Guide System.

VCR Plus+® and PlusCode™ are trademarks of Gemstar Development Corp.

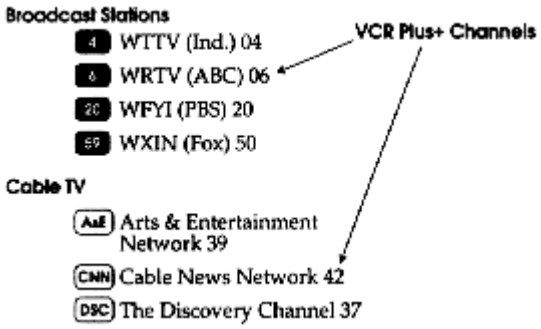
Channel Setup

Before You Begin

Channel setup is easy if you take care of these things first:

1. Make sure you have programmed the local TV channels into your VCR following the instructions in Initial Setup (See page 20).

2. Look for a listing like the one below in your local TV program guide or Sunday newspaper TV section. Notice the small numbers to the right of the station name. These are the VCR Plus+ channel numbers that you will use in the channel setup procedure.



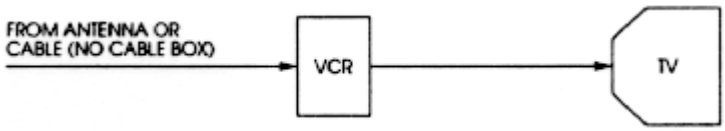
3. If you don't get cable TV, make a list of all the broadcast channel numbers you receive on your TV - for example, channel 4 WTTV (Ind.), channel 20 WFYI (PBS).
4. If you subscribe to cable TV, have your cable company's channel directory handy. This should list all the channels as you receive them in your home, for example:

Channel 34 Arts and Entertainment Network
Channel 35 Turner Network Television
Channel 36 ESPN

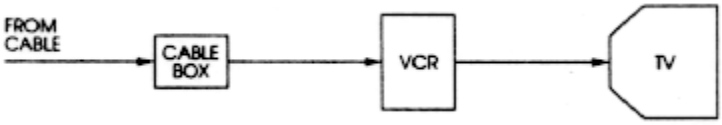
5. Now you're ready to assign your local channels to VCR Plus+ channels in the VCR's memory. The way you do this depends on how your VCR is hooked up to the incoming RF signal. Decide which hookup you have from the diagrams below, and follow the setup instructions for your type of hookup.

Hint: Try several practice recordings after doing your channel setup. You should get the same channels as you usually watch at home.

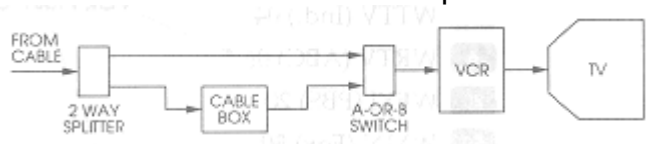
Home antenna or Cable (no cable box)



Cable with a cable box



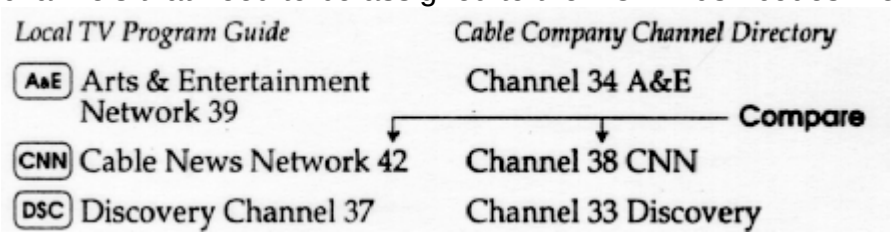
Cable with a cable box and splitter



Home Antenna
If your VCR is connected directly to your home antenna, chances are you don't have to do any special channel setup. To find out, compare the VCR Plus+ channels in your TV program guide to your list of channels that you receive at home.

If any channel numbers don't match, follow the steps (page 43) to assign your local channel numbers to VCR Plus+ numbers.

Cable (No Cable Box)
This is the channel setup to use if your VCR is hooked up directly to cable without a cable box.
Compare your local TV channel listing to your cable company's channel directory to find channels that need to be assigned to the VCR Plus+ codes. For example:



In the example above none of the cable channels match, all of them need to be assigned to VCR Plus+ channel codes.

Matching Broadcast CH Numbers to VCR Plus+ Channels
1. Press GUIDE, then press 4 to select VCR PLUS SETUP.

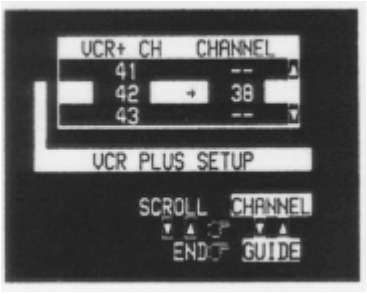
For Home Antenna Setup

You will see the screen as shown below.

For Cable (No Cable Box) Setup

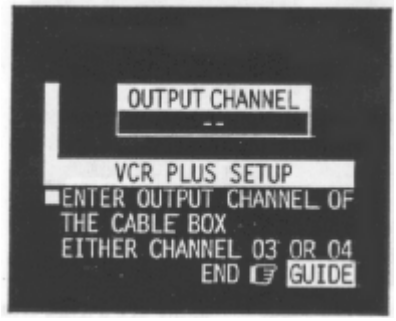
First, the question "Is a cable box being used with the VCR for all channels?" will appear when you press 1 to answer "NO", you will then see this screen, as shown below.

2. A small arrow points to a blank "--" in the CHANNEL column. If your broadcast channel number is the same as the VCR Plus+ channel in your TV listing, do not enter any number. Press CHANNEL up or down to position a nonmatching station next to the arrow.
3. If your broadcast channel number is not the same as the VCR Plus+ channel in your TV listing, use the number buttons to assign the broadcast channel to the corresponding VCR Plus+ channel.
In the example below broadcast channel #38 is assigned to VCR Plus+ channel #42.



4. Repeat step 3 for all channels that need to be assigned.
5. Press GUIDE to end the setup procedure. You are ready to begin delayed recording with VCR Plus+.

Cable with a Cable Box Setup
Use this setup procedure if you receive all channels through a cable box. CABLE BOX SET tells the VCR how to record or to view programs from the cable box. Usually this is either 03 or 04, but it could be 02, 05 or 06. Consult your cable company if you're not sure.
1. Press GUIDE, then press 4 to select VCR PLUS SETUP.
2. Press 2 to answer "YES" to the question "Is a cable box being used with the VCR for all channels?" You will then see this screen:

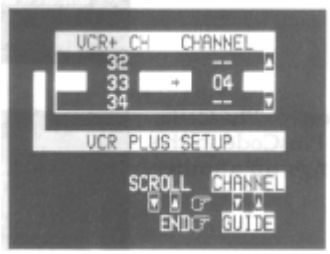


3. Use the number buttons to enter the cable box's output channel.
4. Press GUIDE to end the setup procedure. You are ready to begin delayed recording with VCR Plus+. (When you set up a delayed recording, you will need to select the desired channel using the channel selector on your cable box.)

Cable with a Cable Box and Switchbox Setup
This is the right setup if you used Option 3 in the cable box hookups covered in Advanced Operations. With that hookup you have an A-or-B switchbox because you receive:
Some of your cable channels through a cable box (scrambled premium channels), and
Some of your channels (unscrambled) directly through the cable
Before you begin, you need to know which cable channels you receive through your cable box.
You also need to know the output channel number for your cable box. Usually this is either 03 or 04, but it could be 02, 05 or 06. Consult your cable company if you're not sure.
1. Follow steps 1 through 4 of Cable (no cable box) Setup on page 43 to assing all the unscrambled cable channels. (Be sure to answer "NO" to the question "Is a cable box

being used with the VCR for all channels?" You do not receive all channels through the cable box.)
2. When you come to one of the channels that you receive through the cable box, enter the cable box's output channel number (03 to 04). This will assigne the scrambled cable channels.

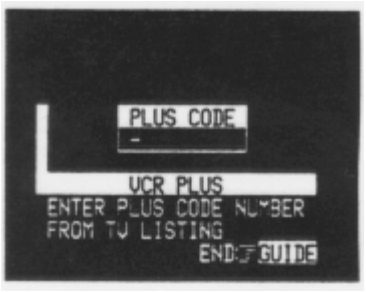
For example, suppose you receive Home Box Office (HBO) through the cable box. Its cable channel is 2 and its VCR Plus+ channel code is 33. Your cable box output channel is 4. You would assign HBO like this:



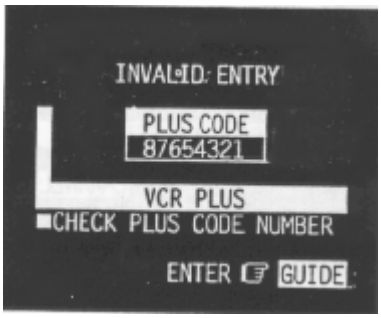
3. Press GUIDE to end the setup procedure.
4. You are ready to begin timed recording with VCR Plus+. But you will need to use the A-or-B switchbox to select whether you will record from the unscrambled or scrambled channels.

Using VCR Plus+ to Record a Program

Now that your channels are set up, you can take advantage of this quick and easy method of delayed recording. You will use the on-screen Easy Guide System, following the basic procedure for delayed recording outlined on page 37. See the section on Recording a Program for recording tips and programming priorities.
You set up the delayed recording using the on-screen Easy Guide System.
1. Press GUIDE, then press 1 to select VCR PLUS RECORDING and bring up this screen:



2. Use the number buttons to enter the PlusCode of the program you want to record. This code can be up to eight digits. Do not enter a zero at the beginning of a code -- the VCR will not accept it. If you enter a wrong digit, press CLEAR and enter the correct one.
3. If you accidentally enter a nonexistent PlusCode, the VCR gives you an error message that disappears from the screen in about 10 seconds.



4. If you have entered the correct PlusCode, press GUIDE to store the PlusCode in the VCR's memory. This brings up another screen:

5. Press number buttons 1, 2, or 3 to select ONE TIME, DAILY, or WEEKLY RECORDING.
Important: Programming does not take effect unless you select one of these options.
6. When the next screen comes up, choose between standard or extended tape speed by pressing the TAPE SPEED button. This is also a good time to check the channel number-- it should be the one on which you usually watch the program at home. (If not, you need to check your VCR Plus+ channel setup.)

Remember, if you are recording through a cable box, the screen will show the channel as 03 or 04. You also need to manually select the channel you wish to record on.

7. Review the screen to be sure everything is set as you want, then press GUIDE to complete your programming or continue with additional programs.

When you have set up all the timed recordings you want:
Don't forget to load a videocassette (with the safety tab still attached) to record on.
If you have a cable box hookup with an A-or-B switchbox, set the switchbox to the proper connection for the programs you are recording (through the cable box for scrambled premium channels, direct cable for all other channels).
Important: Your timed recording settings take effect when you turn off the power on the

VCR.

Caution on the VCR Plus+ recording
The VCR Plus+ feature allows you to program the VCR for timer recording by simply entering a PlusCode number up to 8 digits. To prevent erroneous channel and/or time recording.
After entering a VCR Plus+ number, check the information displayed with the "PROGRAM REVIEW", if there is (are) any unnecessary program(s), please cancel or correct it (them).

Advanced Operations (Remote Control of TV)

This section explains how to use the VCR's remote control to operate your TV. It also shows you how to hook up a cable box and how to connect a stereo or a second VCR for a complete home entertainment system.

Controlling Your TV with the VCR's Remote

Compatibility

The remote control is designed to be compatible with many televisions and cable converters, but will not work with every one made. If your TV or cable box does not respond the way it should when you program it as explained below, this remote may be incapable of operating it.

Once you have programmed the remote, you won't have to do it again until you change the batteries.

This Hitachi remote control can be used with your TV as well as the VCR, as long as your TV comes with a remote control. This feature comes in handy - you don't have to juggle two remotes.
The remote control is compatible with the fifteen makers of TV's listed below - but don't be alarmed if yours is not on our list. You may still be able to program the remote for your TV.
Every TV that comes with a remote control is set up to detect certain infrared signals. You need to program the VCR's remote control to send signals that your TV will recognize and respond to. Here's what to do:

Programming the Remote Control

Turn the television on (any channel is okay).
Aim the VCR's remote control at your TV set. Hold down the TV button (*not* the TV/VCR button) while you press the number corresponding to your brand of television as shown in the chart (page 49).

For example, if you have an RCA television, press TV and 0 at the same time. If this button combination sends a signal that matches your TV, the channel will change on the TV, and you'll know the remote is set to control the television.

If that button combination does not change the TV channel, go through the whole list

of button combinations one by one until you find one that does change your TV channel.

Also, if your brand of TV is not listed in the chart, try all the number buttons. One of them may work for you.
If the TV channel still doesn't change after going through all the button combinations listed, it is likely that you will not be able to program this remote control for your TV.

TV Brands	Press TV and This Number
Hitachi	1
Zenith	2
Sony	3
Magnavox	4
Sanyo	5
Gold Star 1	6
Toshiba	7
Gold Star 2	8
NEC	9
RCA	0
Panasonic	CHANNEL (up arrow)
Mitsubishi	CHANNEL (down arrow)
JVC	100/ENT
Sharp	LAST CH

Controlling the TV

Once programmed, the VCR's remote control is ready to control the TV.
First press TV to change to the TV function mode, then press the button of the TV function that you want.

For example, press TV and the CHANNEL up arrow, and the TV station will change to the next higher station.
Press VCR1 to operate your VCR with the remote again.

Be aware that not all of your TV's functions may work even though the remote control is correctly programmed.

Advanced Operations (Cable Box Hookups)

Hooking Up to a Cable Box

The cable box brings all the advantages of pay cable, but finding a satisfactory hookup can be challenging. To sort out what to do, we suggest a step-by-step approach to installation.

You will need RF TV splitters, coaxial cable jumpers, and possible RF switches to try various configurations. These are not furnished with your VCR because each installation will have different needs and require different cable lengths.

Before you begin, take a close look at the back of your TV to see where cables are currently connected. You may need to reconnect them that way later. As an aid to memory, use masking tape to label each cable and connection.

A Step-by-Step Approach

Try the hookups listed as Options 1 through 4. They are based on whether the cable channel signals are scrambled, unscrambled, or a combination. (Your cable company can tell you more about this.)

After each hookup, power up the VCR and the TV. Use the Initial Setup screen (page 20) to select option CATV1 or CATV2. Then check out the system using these questions as a guide.

Does the TV receive the same number of channels as before the installation?
Does the VCR record all channels?
Do the VCR and TV remote control functions work?
Can I record on one pay channel while watching another?
Do I receive my pay channels, and do all special cable features work?

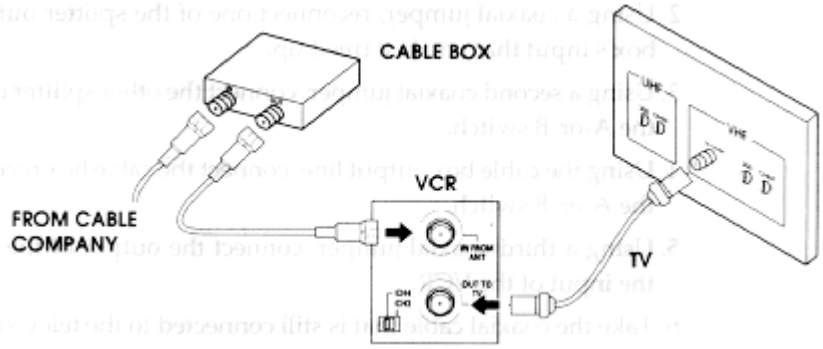
If any function does not work, or works in an unexpected way, hook up everything the way it was when you started and begin again with the next hookup option.

If you don't have a direct video connection - the one using the audio/video cable - make sure the TV channel is set to 3 or 4 when you play back a tape.

Consult the cable company or the cable converter manual for assistance in using the VCR with a cable converter. You will probably need to set the VCR to channel 3 or 4 and then use the cable converter to switch stations. There may be additional procedures for picking up pay-for-view or scrambled channels, which the cable company will gladly help you with.

Option 1--All Channels Scrambled

1. Remove the cable company's cable line from the back of your TV. Connect it to the IN FROM ANT. lower jack on the back of the VCR.
2. Using the 75 ohm coaxial cable supplied with your VCR, connect either end to the VCR's OUT TO TV upper jack
3. Connect the other end of the 75 ohm cable to the TV, in the same place where you removed the cable line.

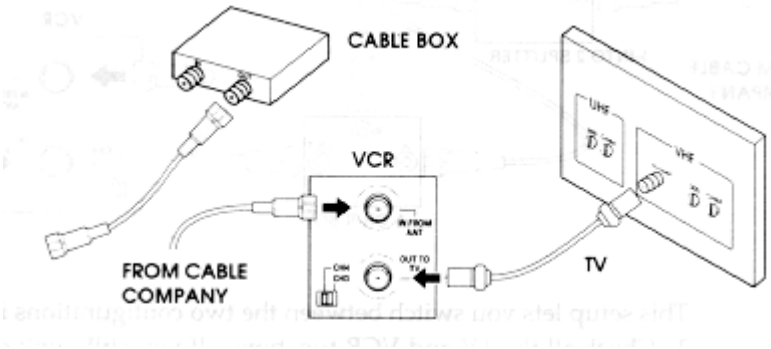


Check all the TV and VCR functions. If you don't get all the functions you want, proceed with Option 2.

Option 2--All Channels Unscrambled

1. Remove the cable company's line from the back of the cable box that goes to your TV. Connect it to the IN FROM ANT. lower jack on the back of the VCR.
2. Using the 75 ohm coaxial cable supplied with the VCR, connect either end to the VCR's OUT TO TV upper jack.
3. Connect the other end of the 75 ohm cable to the TV, in the same place where you removed the cable line.

Note: You will end up with an extra cable that originally went from the cable box to the TV.



Check all the TV and VCR functions. If you don't get all the functions you want, proceed with Option 3.

Option 3--Some Channels Scrambled
This hookup requires three coaxial jumpers with connectors, a 1-into-2 splitter, and an A-or-B switch box.
1. Disconnect the cable from the cable box and attach it to the input line of the 1-into-2 splitter.
2. Using a coaxial jumper, reconnect one of the splitter outputs to the cable box's input that you just freed up.
3. Using a second coaxial jumper, connect the other splitter output to the A of the A-or-B switch.
4. Using the cable box output line, connect the cable box receptacle to the B of the A-or-B switch.
5. Using a third coaxial jumper, connect the output of the A-or-B switch to the IN FROM ANT lowerjack on the back of the VCR.
6. Take the coaxial cable that is still connected to the television and hook it to the VCR's OUT TO TV upperjack.
Some channels scrambled hookup illustration

This setup lets you switch between the two configurations in Options 1 and 2. Check all the TV and VCR functions. If you still don't get the functions you want, proceed with Option 4.

Option 4
If none of the preceding hookups work, check with your cable company. You may need to purchase a video switching system from your local electronics or video retailer. This will easily handle most hookup problems.

Remote Control of the Cable Converter

If you have a cable converter, you will probably want to program your VCR's remote control so you can easily change channels. The process is the same as for programming the remote to operate your TV. For additional details, see page 48.
Hold down the CATV button and press the number of your brand of cable box (shown in the chart).

If that button combination does not work, or if your brand is not on the chart, just go through all the button combinations until you find the one that works best.

Cable Converters	Press CATV and This Number
Jerrold 1	1
Jerrold 2	2
Jerrold 3	3
Hamlin	4
Zenith	5
Scientific Atlanta	6
Pioneer	7
Philips	8

To operate the cable box once the remote is programmed for it:

Press CATV and then the button of the function you want.

Press VCR to operate your VCR with the remote again.

Advanced Operations (Second VCR)

Integrating a Second VCR

With another VCR hooked up, you can copy videotapes as needed, and you can get fancy with multimedia programming. For this discussion, we refer to the model VT-M273A Hitachi as VCR2 and the other unit as VCR1.

Hookup

To hook up a second VCR, you need:
A video cord with a single jack on each end, *and*
An audio cord with a single jack on each end, *or*
A two-way cord that has both audio and video jacks

Study the back of VCR2 (VT-M273A) to find the two color-coded jacks that are labelled IN. The yellow jack is for video and white is for audio. Locate similar jacks on VCR1. Then, with the power off:
Connect VIDEO OUT on VCR2 to the yellow VIDEO IN on VCR1.
Connect the AUDIO OUT jack on VCR2 to the AUDIO IN jack on VCR1.

Second VCR Hookup Illustration

To Control Both VCRs with the Remote Control

If the second VCR that you've hooked up is also a Hitachi, you can set your remote to operate both VCRs.
Press GUIDE, then press 5 to bring up the Setup screen.
The default setting on the Setup Screen is VCR1, for when you have only one VCR running.
Press 4 to set VCR CODE to VCR2.
Press the VCR2 button on the remote before pressing GUIDE twice to exit the on-screen program.
With this setting, the remote control can now operate both VCRs. To switch control from one to the other, simply press VCR1 or VCR2 on the remote. (Remember to aim the remote at the selected VCR.)

Copying from One VCR to Another (Dubbing)

Consider VCR1 the recording VCR, and VCR2 (VT-M273A) the playback VCR. You will play a tape on VCR2 and record it on VCR1. To begin copying:

Insert the prerecorded videotape in VCR2.
Insert a blank or erasable tape (with the safety tab intact) into VCR1.
Press AVX on VCR1 - the LINE indicator will display.
Press REC/IRT on VCR1, and press PLAY on VCR2.

To monitor the picture as you record, VCR1 must be connected to your TV (follow instructions in the other VCR's manual). Press the VCR/TV button on the remote. The VCR indicator will light on VCR1's display and you can view the picture being recorded.

Copying Tapes From A Camcorder

If you would like to copy a video tape shot in your camcorder onto your VCR here's how to do it.
Connect the camcorder's AV output cable to your VCR. (See diagram below)

Copying Tapes From A Camcorder Hookup Illustration

Press the AVX button on the VCRs remote control so that the L1 (Line) indicator appears in the VCR display.
Press REC/IRT on the VCR to start recording.
Press PLAY on your camcorder to start copying your tape.

VCR Care and Servicing

The VCR is fairly self-servicing, but you'll want to keep an eye on a few things as you go. In addition, you may sometimes have troubles with your VCR. We offer some suggestions for care to prevent problems, ways to troubleshoot, and places to contact when you cannot solve the problems yourself.

Routine Cleaning

Head Cleaning

The heads are tiny mechanisms in the VCR that pick up the video signal as a videotape passes over them. In time, a residue of electromagnetic dust builds up on the heads because of contact with the tape. This dust interferes with the signal being picked up.
If the picture is blurry during playback, or is occasionally interrupted or blanks out, try playing different cassettes to see whether you get the same picture problems.
If the picture problems persist, the heads may need to be cleaned professionally. Consult your VCR dealer for the name of trained service technician near you.

Periodic Maintenance

Your Hitachi VCR is a precision electromechanical device which requires professional maintenance after a period of normal use.
Usually no maintenance other than head cleaning is required during the warranty period, unless the VCR is used either heavily or infrequently. Defective parts are covered during the warranty period but normal maintenance is your responsibility. Consult your VCR service center to find out what they recommend as normal maintenance based on your location, how you use the VCR and the age of the machine.

If the VCR Doesn't Work Right

Many operational problems are easily remedied by reviewing the instructions in this manual and trying out some different controls and settings.
The chart on the facing page covers the more common problems that new VCR owners encounter.

Don't Attempt Repairs Yourself

Do not remove the cover or the back of the VCR - this will void the warranty and

endanger your safety. The exposed uninsulated voltage in this unit may be high enough to cause electrical shock. It is dangerous to make contact with any inside part, and none of these parts are intended to be serviced by an untrained user. To be safe, refer service problems to qualified service personnel.

Care and Servicing (Problems)

OFTEN ENCOUNTERED PROBLEMS		
PROBLEM	THINGS TO CHECK	SOLUTION
No Power	Power cord plugged in?	Connect the power cord to AC outlet.
Delayed recording does not work.	Program set to the correct channel?	Reset the delayed recording.
	Program time and date set correctly?	Reset the delayed recording
	VCR power turned off?	Turn power off to activate the timer.
Does not record when you press REC and PLAY at the same time/	Safety tab removed from the videocassette	Put cellophane tape over the tab area, or use a videocassette with safety tab intact.
TV program cannot be viewed or recorded.	Loose or inappropriate connections between VCR and TV?	Review hookup directions and make correct, firm connections.
Poor picture quality (“noise”) during playback.	TV channel selector on the proper channel.	Set TV to channel 3 or 4 as correct for your area (Set TV or AUX or VIDEO have a direct video hookup.)
	Is TV correctly tuned?	Fine tune the TV.
	Static lines through the picture?	Press 1 or 4 button to adjust tracking.
	“Noisy” picture despite all previous adjustments, even when playing different cassettes?	Have video heads cleaned by a qualified service technician.
No picture during playback.	TV set to the correct video viewing channel?	Set TV to channel 3 or 4.
TV cannot be operated by the VCR’s remote.	Is VCR remote control programmed for your TV?	Follow instructions in Advanced Operations to program the remote to send signals that your TV can recognize.
(Not all TV brands are compatible.)		

	Is remote control set to control the TV?	Press the TV device button, then press the button corresponding to the TV function you want.
Mechanical sounds during the STOP	Has a loaded cassette been stopped more than 5 minutes?	Nothing is wrong. The tape protection mechanism is working. Eject the cassette if you are done viewing. Otherwise, no action is necessary.

.

Hitachi Service Hotline

Authorized Hitachi service facilities are available throughout the US and Canada. For the location nearest you, call the Hitachi Service Hotline at one of these numbers:

In the continental U.S.A.

DIAL TOLL FREE
7 days a week, 24 hours a day
1-800-HITACHI
(1-800-448-2244)
You must state your zip code when calling

In Canada

QUEBEC	418-527-5853
MONTREAL	514-697-9150
TORONTO	416-821-4545
VANCOUVER	604-526-8566

Specifications

Technical Specifications

Recording:	Rotary two-head helical scan azimuth recording
Video:	NTSC color EIA standard
Cassette:	VHS type
Heads:	4 video heads: 2 for SP, 2 for EP 1 full track audio/video erase head 1 combination head for control track, audio erase and audio record/play (3 heads/single housing)
Tape Speed:	33.35mm / sec (SP, 16.67mm / sec (LP)(playback only), 11.12mm / sec (EP)
Tape Width:	12.7mm
RF Output:	Channel 3 or 4
RF Input:	UHF/VHF 75ohm
Tuning Range:	VHF LOW CH, 2 - 6 (54MHz - 88MHz) VHF MID CH, A-5 - A-1 and A-I (90MHz - 174MHz) CATV VHF HIGH CH, 7 - 13 (174MHz - 216MHz) VHF SUPER CH, J - W (216MHz - 300MHz) CATV VHF HYPER CH, W+1 - W+28 (300MHz - 468MHz) CATV UHF CH, 14 - 69, W+29 - W+84 (470MHz - 806MHz)
Video Input:	1-2 Vp-p 75ohm unbalanced
Video Output:	1 Vp-p 75ohm unbalanced
Audio Input	316mV rms (-7.8dB) 50 kohm
Audio Output	316mV rms (-7.8dB) 1.5 kohm
Video Recording S/N:	Better than 45dB (SP), better than 40dB (EP)
Horizontal Resolution:	240 lines (SP), 220 lines (LP)(playback only), 230 lines (EP)
Audio Response:	50Hz - 10kHZ (SP), 100Hz - 6kHZ (EP)
Audio S/N:	Better than 43dB (SP), better than 40dB (EP)
Power Input:	AC120V 60Hz
Power Consumption:	25W nominal
Cabinet Size:	14-15/16" (W) x 3-1/4" (H) x 13-1/8" (D) 38.0cm (W) x 8.2cm (H) x 33.4cm (D)
Weight:	11.7 lbs. (5.3 kg)
Accessories:	1 coaxial cable (Part No. 5861141) 1 remote control unit (Part No. 5616492), 2 AA batteries

For information about how to obtain these accessories, please call TOLL FREE 1-800-448-2244 for your nearest Hitachi Authorized Parts Distributor in the continental United States.

For ALASKA and HAWAII, please contact the nearest Hitachi Regional office.

Design and specifications subject to change without notice.

---

[1]Warranty information: 90 days labor, 2 years parts

Product originally released in 1993-1994 product line.

Memory backup: 5 seconds